

greater veteran, Mr. William Bean, of Scarborough, who was a zealous and kind-hearted collector of shells, fossils, and plants.

*Hatching of the Mantis in England.*

By HENRY DENNY.

Not being aware if there is an instance on record of the hatching of any species of *Mantis* in England, I beg to inform you that, on the 12th of December last, I was much gratified by the sight of a very lively little specimen in a tumbler glass, up and down the sides of which it was rapidly pacing in pursuit of small flies, and every now and then elevating its prothorax and anterior pair of feet, in the well-known attitude of these insects when searching for food. A young friend of mine, Mr. H. L. Watson, of Leeds, detached a cluster of eggs from a post, about a mile out of the town of Melbourne, Australia, where he had observed it for a month previously, towards the end of August; these were placed in a small box. After his arrival in England, he examined the box, and found about twenty specimens hatched, and all dead; on the 10th of December, however, another, the one above alluded to, made its appearance, and fed readily upon small flies for about fifteen days, when, owing to the supply failing, the little *Mantis* became too weak to kill larger flies, though it still made efforts to do so, and at last died. Had it occurred earlier in the season, there is little doubt that by keeping the specimen in a greenhouse, with a good supply of food, it would have arrived at maturity and lived many weeks. My friend tells me the species is very plentiful in the neighbourhood of Melbourne, where it is a common practice to place specimens of the *Mantis* on the window-blinds, where they keep the room clear of flies by their incessant watchfulness for food.

*On some points in the Structure of the Xiphosura, having reference to their Relationship with the Eurypterida.* By HENRY WOODWARD, Esq., F.G.S., F.Z.S., of the British Museum.

The author pointed out that Prof. M'Coy's tribe *Pæcilopoda* was intended to include the *Limuli*, with *Eurypterus*, *Pterygotus*, and *Belinurus*. Prof. Huxley had already shown (in 1859) that this classification was founded upon an erroneous interpretation of the fossils, then (1849) only known in England by extremely fragmentary remains.

The object of this communication was to demonstrate that although Prof. M'Coy's classification was based on conjecture rather than upon a minute acquaintance with the anatomy of these extinct forms, yet the subsequent researches of Profs. Agassiz and Hall in America, Prof. Nieszkowski in Russia, and the independent investigations of Mr. J. W. Salter and the author in this country have shown that a close relationship actually does exist between the *Xiphosura* and the *Eurypterida*.

The author then gave a detailed comparison of the structure of

these two divisions, which he proposed to call suborders of Dr. Dana's order *Merostomata*. He also pointed out that the *Xiphosura* were divisible into three genera :—1st, *Belinurus*, Baily, having 5 freely articulated thoracic segments, and 3 anchylosed abdominal ones and a telson ; 2nd, *Prestwichia*, a new genus, having the thoracic and abdominal segments anchylosed together ; and 3rd, *Limulus*, Müller, having a head composed of 7 cephalic and 1 thoracic segments, followed by 5 coalesced thoracic somites bearing branchiæ, and 1 or more coalesced apodal abdominal somites, to which is articulated the telson. Although so great a dissimilarity exists between *Pterygotus* and *Limulus*, yet in the genera *Hemiaspis*, *Exapinurus*, and *Pseudoniscus* we have forms which, in the number of body-rings, are intermediate.

The order *Merostomata* offers a parallel group to the *Decapoda*, the *Eurypterida* representing the *Macrura*, and the *Xiphosura* the *Brachyura*. The author did not, however, intend by this comparison to indicate that *Limulus* was higher in the Crustacean scale than *Pterygotus*, but rather that the former was one of those low but persistent types (like the Brachiopoda) which have remained unchanged through long geological ages, whilst forms capable of further development, like *Pterygotus*, have been modified and swept away.—*Proc. Geol. Soc.* Nov. 21, 1866.

*On the Structure of the Skin in Stello caucasicus.*

By PROFESSOR F. DE FILIPPI.

In his travels in Georgia and Persia, M. de Filippi observed the *Stello caucasicus* in great abundance and at the most various elevations. Contrary to Duméril and Wilson's account of the habits of *Stello vulgaris*, he ascertained, by the dissection of a great number of individuals, that this animal feeds chiefly upon vegetable materials, and that insects form but a small portion of its nourishment. This fact is not without interest, as the known herbivorous Saurians (*Iguana*, *Amblyrhynchus*, *Cyclura*, *Sauromalus*) are peculiar to America.

But the most remarkable peculiarity of this species consists in a change of colour under the influence of light, perfectly similar to that of the Chameleons. An analogous phenomenon has certainly been mentioned as occurring in other Saurians, especially in certain species of *Agama*, *Anolis*, and *Polychrus* ; but nothing of the kind had previously been suspected in any *Stello*. The scale of variation of colour, indeed, is greater in the Chameleons than in *Stello caucasicus* ; but, on the other hand, the latter seems to present a greater distance between its maximum paleness and its most complete darkening ; in other words, the phenomenon is more varied in the Chameleon, and more striking in the *Stello*. Moreover these changes of colour occur only in the adults, the young being exempt from them, contrary to what is observed in the Chameleons. The change is particularly distinct on the lower part of the body, and diminishes towards the back. The Chameleon becomes dark when it is exposed